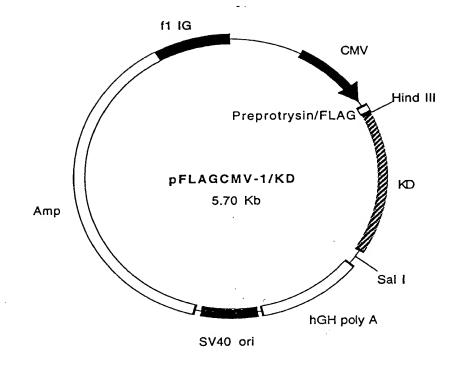


Fig. 1



f1 IG Preprotrysin/FLAG Hind III Fig. 3 pFLAGCMV-1/PD PD 5.70 Kb Amp Sal I hGH poly A SV40 ori

Fig. 2

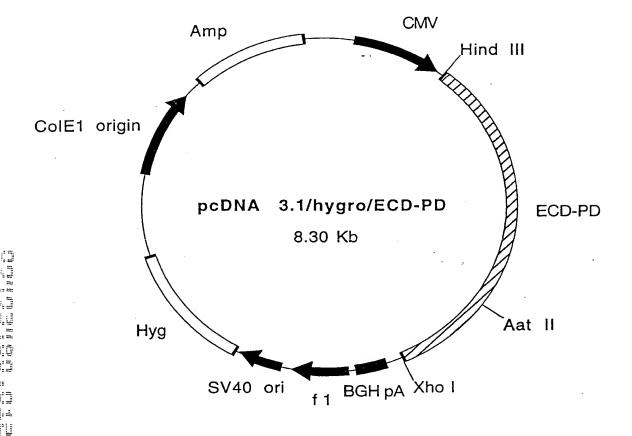
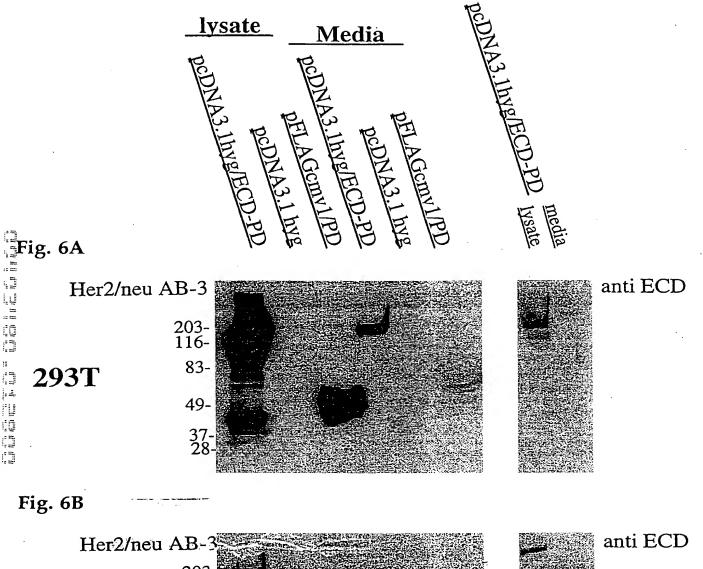


Fig. 5

pcDNA3.1hyg/ECD-PD expression



Her2/neu AB-3

203116
CHO

8349
3728-

Fig. 7 (SEQ ID NO: 1)

1	10	20
Met Glu Leu Ala Ala Leu Cys Ara Tro G	Gly Leu Leu Leu Ala Leu Leu Pro Pro Gly	Ala 20
	sp Met Lys Leu Arg Leu Pro Ala Ser Pro	
	yr Gin Gly Cys Gin Val Val Gin Gly Asn	
Gly Ley Thr Tyr Ley Pro Thr Asn Ala S	Ser Leu Ser Phe Leu Gin Asp Ile Gin Giu	Val 80
	Ain Vai Arg Gin Vai Pro Leu Gin Arg Leu .	
	_	120
		<u> </u>
Ile Val Ara Gly Thr Gln Leu Phe Glu As	isp Asn Tyr Ala Leu Ala Val Leu Asp Asn	Gly . 120
Asp Pro Leu Asn Asn Thr Thr Pro Val Ti	hr Gly Ala Ser Pro Gly Gly Leu Arg Glu	_eu 140
Gin Leu Arg Ser Leu Thr Glu Ile Leu L	ys Gly Gly Val Leu Ile Gln Arg Asn Pro	GIn 160
Leu Gys Tyr Gin Asp Thr Ile Leu Trp L	ys Asp Ile Phe His Lys Asn Asn Gin Leu	Ala 180
Leu Thr Leu lie Asp Thr Asn Arg Ser A	rg Ala Cys His Pro Cys Ser Pro Met Cys	Lys 200
2	10	220
	<u> </u>	1
Gly Ser Arg Cys Trp Gly Glu Ser Ser G	Glu Asp Cys Gln Ser Leu Thr Arg Thr Val	Cys 220
Ala Gly Gly Cys Ala Arg Cys Lys Gly Pl	ro Leu Pro Thr Asp Cys Cys His Glu Gln	Cys 240
Ala Ala Gly Cys Thr Gly Pro Lys His S	er Asp Cys Leu Ala Cys Leu His Phe Asn	
	Ala Leu Vol Thr Tyr Asn Thr Asp Thr Phe	
Ser Met Pro Asn Pro Glu Gly Arg Tyr Ti	hr Phe Gly Ala Ser Cys Val Thr Ala Cys I	Pro 300
3	10	320
	Ber Cys Thr Leu Val Cys Pro Leu His Asn	
	ing Cys Glu Lys Cys Ser Lys Pro Cys Ala	
	eu Arg Glu Val Arg Ala Val Thr Ser Ala	
	lle Phe Gly Ser Leu Ala Phe Leu Pro Glu	
Phe Asp Gly Asp Pro Ald Ser Ash Thr A	Ala Pro Leu Gin Pro Giu Gin Leu Gin Val i	
4	10	420
		
	eu Tyr Ile Ser Ala Trp Pro Asp Ser Leu	
	Val Ile Arg Gly Arg Ile Leu His Ash Gly	
	Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg	
	His Asn Thr His Leu Cys Phe Val His Thr	
• •	dis Gin Ala Leu Leu His Thr Ala Ash Arg	
. 5	510	520
Cl. And Che Caro Vot Che Che Che Lor	Ala Cua Hia Cla Lau Cua Ala Asa Cliu Hia	Cys 520
	Ala Cys His Gin Leu Cys Ala Arg Gly His	
	Asn Cys Ser Gin Phe Leu Arg Giy Gin Giu	
	Leu Pro Arg Glu Tyr Val Asn Ala Arg His Gin Asn Gly Ser Val Thr Cys Phe Gly Pro	
	dill wall did act, and the chaine gid the	
Alo Aco Glo Fue Vol Alo Fue Alo His I	Tyr Lys Asp Pro Pro Phe Cys Val Ala Arg	Cys 600

Fig. 7 (SEQ ID NO: 1)

	610	650
Des Con Cl. Val. Las Psa Asa Lau Sas	Tue Met Bee IIIe Tee Luc Phe Bee Ace Ch	Glu 620
	r Tyr Met Pro IIe Trp Lys Phe Pro Asp Glu n Cys Thr His Ser Cys Val Asp Leu Asp Asp	
	Pro Leu Thr Ser Ile Ile Ser Ala Val Val	
	Val Phe Gly Ile Leu Ile Lys Arg Arg Gln	
	Leu Leu Gin Giu Thr Giu Leu Vai Giu Pro	
Lys he arg Lys lyr I'm her arg arg		
	710	720
The Pro Ser Gly Ala Met Pro Asa Gla	Ala Gin Met Arg Ile Leu Lys Glu Thr Glu	Leu 720
	Ala Phe Gly Thr Val Tyr Lys Gly Ile Trp	
	Val Ala Ile Lys Val Leu Arg Glu Asn Thr	
	Glu Ala Tyr Val Met Ala Gly Val Gly Ser	
	Leu Thr Ser Thr Val Gln Leu Val Thr Gln	
	810	820
		
Met Pro Tyr Gly Cys Leu Leu Asp His	Val Arg Glu Asn Arg Gly Arg Leu Gly Ser	Gin 820
	Ala Lys Gly Met Ser Tyr Leu Glu Asp Val	
Leu Val His Arg Asp Leu Ala Ala Arg	Asn Val Leu Val Lys Ser Pro Asn His Val	Lys 860
	Leu Asp Ile Asp Glu Thr Glu Tyr His Ala	
Gly Gly Lys Val Pro Ile Lys Trp Met	: Ala Leu Glu Ser Ile Leu Arg Arg Arg Phe	Thr 900
	910	920
His Ein Ser Asp Val Trp Ser Tyr Gly	Val Thr Val Trp Glu Leu Met Thr Phe Gly	Ala 920
Lys Pro Tyr Asp Gly Ile Pro Ala Arg	Glu Ile Pro Asp Leu Leu Glu Lys Gly Glu	Arg 940
Leu Bro Gin Pro Pro Ile Cys Thr Ile	Asp Val Tyr Met Ile Met Val Lys Cys Trp	
	: Arg Glu Leu Val Ser Glu Phe Ser Arg Met	
Arg Asp Pro Gln Arg Phe Val Val Ile	Gin Asn Giu Asp Leu Gly Pro Ala Ser Pro	Leu 1000
: E	1010	1020
	<u> </u>	
	Glu Asp Asp Asp Met Gly Asp Leu Vol Asp	
Glu Glu Tyr Leu Val Pro Gln Gln Gly	Phe Phe Cys Pro Asp Pro Ala Pro Gly Ala	Gly 1040
Gly Met Val His His Arg His Arg Ser	Ser Ser Thr Arg Ser Gly Gly Gly Asp Leu	Thr 1060
	Ala Pro Arg Ser Pro Leu Ala Pro Ser Glu	
Ala Gly Ser Asp Val Phe Asp Gly Asp	Lou Gly Met Gly Ala Ala Lys Gly Leu Gln	Ser 1100
	1110	1120
Leu Pro Thr His Asp Pro Ser Pro Leu	Gin Arg Tyr Ser Glu Asp Pro Thr Val Pro	Leu 1120
Pro Ser Glu Thr Asp Gly Tyr Val Ala	Pro Leu Thr Cys Ser Pro Gln Pro Glu Tyr	Val 1140
Asn Gin Pro Asp Val Arg Pro Gin Pro	Pro Ser Pro Arg Glu Gly Pro Leu Pro Ala	Ala 1160
Arg Pro Ala Gly Ala Thr Leu Glu Arg	Pro Lys Thr Leu Ser Pro Gly Lys Asn Gly	Val 1180
Val Lys Asp Val Phe Ala Phe Gly Gly	Ala Val Glu Asn Pro Glu Tyr Leu Thr Pro	
	1210	1220
		1220
Gly Gly Ala Ala Pro Gln Pro His Pro	Pro Pro Ala Phe Ser Pro Ala Phe Asp Asn	Leu 1220
Tyr Tyr Trp Asp Gin Asp Pro Pro Giu	Arg Gly Ala Pro Pro Ser Thr Phe Lys Gly	
Pro Thr Ala Glu Asn Pro Glu Tyr Leu	u Gly Leu Asp Val Pro Val • • 125) /

Fig. 8 (SEQ ID NO: 2)

	10	20
Ala Gly Thr Gln Val Cys Thr Gly Thr Thr His Leu Asp Met Leu Arg His Leu	Gly Phe Leu Leu Ala Leu Leu Pro Pro Gl Asp Met Lys Leu Arg Leu Pro Ala Ser Pro Tyr Gln Gly Cys Gln Val Val Gln Gly As	o Glu 40 n Leu 60
Glu Leu Thr Tyr Val Pro Ala Asn Ala Gln Gly Tyr Met Leu Ile Ala His Asn	Ser Leu Ser Phe Leu Gin Asp Ile Gin Giu Gin Vai Lys Arg Vai Pro Leu Gin Arg Le 110	u Val 80 u Arg 100 120
Asp Pro Gin Asp Asn Val Ala Ala Ser Leu Gin Leu Arg Ser Leu Thr Glu Ile Gin Teu Cys Tyr Gin Asp Met Val Leu	Asp Lys Tyr Ala Leu Ala Val Leu Asp Asi Thr Pro Gly Arg Thr Pro Glu Gly Leu Arg Leu Lys Gly Gly Val Leu IIe Arg Gly Asi Trp Lys Asp Val Phe Arg Lys Asn Ash Gli Ser Arg Ala Cys Pro Pro Cys Ala Pro Ala	g Glu 140 n Pro 160 n Leu 180
	210	220
Cystan Ser Gly Cys Ala Arg Cys Lys Cystana Ala Gly Cys Thr Gly Pro Lys Histor Gly Ile Cys Glu Leu His Cys	Pro Glu Asp Cys Gln IIe Leu Thr Gly Thi Gly Arg Leu Pro Thr Asp Cys Cys His Glo His Ser Asp Cys Leu Ala Cys Leu His Pho Pro Ala Leu Val Thr Tyr Asn Thr Asp Thi Tyr Thr Phe Gly Ala Ser Cys Val Thr Thi	u Gin 240 e Asn 260 r Phe 280
	310	320
Ginggiu Val Thr Ala Glu Asp Gly Thr Arggival Cys Tyr Gly Leu Gly Met Glu Asn Val Gin Glu Phe Asp Gly Cys Lys	Gly Ser Cys Thr Leu Val Cys Pro Pro Asi Gln Arg Cys Glu Lys Cys Ser Lys Pro Cy His Leu Arg Gly Ala Arg Ala Ile Thr Se Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Ile Ala Pro Leu Arg Pro Glu Gln Leu Glr	s Ala 340 r Asp 360 o Glu 380 n Val 400
	410	420
Arg Asp Leu Ser Val Phe Gin Asn Leu Ala Tyr Ser Leu Thr Leu Gin Gly Leu Glu Leu Gly Ser Gly Leu Ala Leu Ile	Tyr Leu Tyr IIe Ser Ala Trp Pro Asp Se I Arg IIe IIe Arg Gly Arg IIe Leu His As I Gly IIe His Ser Leu Gly Leu Arg Ser Le His Arg Asn Ala His Leu Cys Phe Val His I Pro His Gln Ala Leu Leu His Ser Gly As 510	p Gly 440 u Arg 460 s Thr 480
Cys Trp Gly Pro Gly Pro Thr Gln Cys Cys Val Glu Glu Cys Arg Val Trp Lys Cys Leu Pro Cys His Pro Glu Cys Gln	Leu Vai Cys Asn Ser Leu Cys Ala His Gis Vai Asn Cys Ser His Phe Leu Arg Gly Glis Gly Leu Pro Arg Glu Tyr Vai Ser Asp Lyn Pro Gin Asn Ser Ser Glu Thr Cys Phe Gin His Tyr Lys Asp Ser Ser Ser Cys Vai Al	n Glu 540 s Arg 560 y Ser 580

Fig. 8 (SEQ ID NO: 2)

610 62	o
Cys Pro Ser Gly Val Lys Pro Asp Leu Ser Tyr Met Pro Ile Trp Lys Tyr Pro Asp Glu Glu Gly Ile Cys Gln Pro Cys Pro Ile Asn Cys Thr His Ser Cys Val Asp Leu Asp Glu Arg Gly Cys Pro Ala Glu Gln Arg Ala Ser Pro Val Thr Phe Ile Ile Ala Thr Val Val Gly Val Leu Leu Phe Leu Ile Leu Val Val Val Val Gly Ile Leu Ile Lys Arg Arg Gln Lys Ile Arg Lys Tyr Thr Met Arg Arg Leu Leu Gln Glu Thr Glu Leu Val Glu Pro 710	1 640 1 660 g 680 o 700
Leu Thr Pro Ser Gly Ala Met Pro Asn Gin Ala Gin Met Arg IIe Leu Lys Glu Thr Glu Leu Arg Lys Val Lys Val Leu Gly Ser Gly Ala Phe Gly Thr Val Tyr Lys Gly IIe Tri IIe Pro Asp Gly Glu Asn Val Lys IIe Pro Val Ala IIe Lys Val Leu Arg Glu Asn The Ser Pro Lys Ala Asn Lys Glu IIe Leu Asp Glu Ala Tyr Val Met Ala Gly Val Gly Se Pro Tyr Val Ser Arg Leu Leu Gly IIe Cys Leu Thr Ser Thr Val Gln Leu Val Thr Gla	720 p 740 r 760 r 780 n 800
Leu Met Pro Tyr Gly Cys Leu Leu Asp His Val Arg Glu His Arg Gly Arg Leu Gly Se Gln Asp Leu Leu Asn Trp Cys Val Gln Ile Ala Lys Gly Met Ser Tyr Leu Glu Asp Va Arg Leu Val His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Lys Ser Pro Asn His Va Lys He Thr Asp Phe Gly Leu Ala Arg Leu Leu Asp Ile Asp Glu Thr Glu Tyr His Ak Asp Gly Gly Lys Val Pro Ile Lys Trp Met Ala Leu Glu Ser Ile Leu Arg Arg Arg Phe 910	r 820 1 840 1 860 2 880 e 900
The His Gin Ser Asp Val Trp Ser Tyr Gly Val The Val Trp Glu Leu Met The Phe Gly Ala Lys Pro Tyr Asp Gly Ile Pro Ala Arg Glu Ile Pro Asp Leu Leu Glu Lys Gly Gly Arg Leu Pro Gln Pro Pro Ile Cys The Ile Asp Val Tyr Met Ile Met Val Lys Cys Tre Met Ile Asp Ser Glu Cys Arg Pro Arg Phe Arg Glu Leu Val Ser Glu Phe Ser Arg Met Ala Arg Asp Pro Gln Arg Phe Val Val Ile Gln Asn Glu Asp Leu Gly Pro Ser Ser Pro 1010	p 960 et 980 o 1000
Met Asp Ser Thr Phe Tyr Arg Ser Leu Leu Glu Asp Asp Asp Met Gly Asp Leu Val As Ala Glu Glu Tyr Leu Val Pro Gln Gly Phe Phe Ser Pro Asp Pro Thr Pro Gly Th Gly Ser Thr Ala His Arg Arg His Arg Ser Ser Ser Thr Arg Ser Gly Gly Gly Glu Le Thr Leu Gly Leu Glu Pro Ser Glu Glu Gly Pro Pro Arg Ser Pro Leu Ala Pro Ser Gly Ala Gly Ser Asp Val Phe Asp Gly Asp Leu Ala Met Gly Val Thr Lys Gly Leu Gl	u 1060 u 1080 n 1100
Ser Leu Ser Pro His Asp Leu Ser Pro Leu Gin Arg Tyr Ser Glu Asp Pro Thr Leu Pro Leu Pro Pro Giu Thr Asp Giy Tyr Val Ala Pro Leu Ala Cys Ser Pro Gin Pro Glu Tyr Val Asn Gin Ser Giu Val Gin Pro Gin Pro Pro Leu Thr Pro Giu Giy Pro Leu Pro Pro Val Arg Pro Ala Giy Ala Thr Leu Giu Arg Pro Lys Thr Leu Ser Pro Giy Lys Asn Gil Val Val Lys Asp Val Phe Ala Phe Giy Giy Ala Val Giu Asn Pro Giu Tyr Leu Val Pro 1210	ro 1160 y 1180 ro 1200
Arg Glu Gly Thr Ala Ser Pro Pro His Pro Ser Pro Ala Phe Ser Pro Ala Phe Asp As Leu Tyr Tyr Trp Asp Gln Asn Ser Ser Glu Gln Gly Pro Pro Pro Ser Asn Phe Glu Gl Thr Pro Thr Ala Glu Asn Pro Glu Tyr Leu Gly Leu Asp Val Pro Val	sn 1220 ly 1240 258

Fig. 9 (SEQ ID NO: 3)

Met Giu Leu Ala Ala Leu Cys Arg Trp Gly Leu Leu Leu Ala Leu Leu Pro Pro Gly Ala 20 Ala Ser Thr Gin Vai Cys Thr Gly Thr Asp Met Lys Leu Arg Leu Pro Ala Ser Pro Glu 40 Thr His Leu Asp Met Leu Arg His Leu Tyr Gln Gly Cys Gln Vai Vai Gln Gly Asn Leu 60 Glu Leu Thr Tyr Leu Pro Thr Asn Ala Ser Leu Ser Phe Leu Gln Asp IIe Gln Glu Vai 80 Gln Gly Tyr Vai Leu IIe Ala His Asn Gln Vai Arg Gln Vai Pro Leu Gln Arg Leu Arg 100 110 120 Ile Vai Arg Gly Thr Gln Leu Phe Glu Asp Asn Tyr Ala Leu Ala Vai Leu Asp Asn Gly 140 Asp Pro Leu Asn Asn Thr Thr Pro Vai Thr Gly Ala Ser Pro Gly Gly Leu Arg Glu Leu 140 Gln Leu Arg Ser Leu Thr Glu IIe Leu Lys Gly Gly Vai Leu IIe Gln Arg Asn Pro Gln 160 Leu Cys Tyr Gln Asp Thr IIe Leu Trp Lys Asp IIe Phe His Lys Asn Asn Gln Leu Ala 180 Leu Thr Leu IIe Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 210 220 131 140 Gly Ser Arg Cys Trp Gly Glu Ser Ser Glu Asp Cys Gln Ser Leu Thr Arg Thr Vai Cys 220 Ala-Bly Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys 240 Ala-Bly Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Leu His Phe Asn His 260 Sert-Bly Tile Cys Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Vai Thr Ala Cys Pro 310 320 177 177 Asn Tyr Leu Ser Thr Asp Vai Gly Ser Cys Thr Leu Vai Cys Pro Leu His Asn Gln 320 320 131 142 143 144 158 169 179 179 180 180 180 180 180 180 180 18
Ala Ser Thr Gln Val Cys Thr Gly Thr Asp Met Lys Leu Arg Leu Pro Ala Ser Pro Glu Thr His Leu Asp Met Leu Arg His Leu Tyr Gln Gly Cys Gln Val Val Gln Gly Asn Leu Glu Leu Thr Tyr Leu Pro Thr Asn Ala Ser Leu Ser Phe Leu Gln Asp Ite Gln Glu Val Glu Leu Thr Tyr Leu Pro Thr Asn Ala Ser Leu Ser Phe Leu Gln Asp Ite Gln Glu Val Gln Gly Tyr Val Leu Ile Ala His Asn Gln Val Arg Gln Val Pro Leu Gln Arg Leu Arg 110 110 120 Ile Val Arg Gly Thr Gln Leu Phe Glu Asp Asn Tyr Ala Leu Ala Val Leu Asp Asn Gly Asp Pro Leu Asn Asn Thr Thr Pro Val Thr Gly Ala Ser Pro Gly Gly Leu Arg Glu Leu 140 Gln Leu Arg Ser Leu Thr Glu Ite Leu Lys Gly Gly Val Leu Ite Gln Arg Asn Pro Gln Leu Cys Tyr Gln Asp Thr Ile Leu Trp Lys Asp Ite Phe His Lys Asn Asn Gln Leu Ala 180 Leu Thr Leu Ite Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 210 220 220 220 220 220 220 220
Giu Leu Thr: Tyr Leu Pro Thr Asn Ala Ser Leu Ser Phe Leu Gin Asp IIe Gin Giu Vai Gin Gly Tyr Vai Leu IIe Ala His Asn Gin Vai Arg Gin Vai Pro Leu Gin Arg Leu Arg 110 120 110 120 Ile Vai Arg Gly Thr Gin Leu Phe Giu Asp Asn Tyr Ala Leu Ala Vai Leu Asp Asn Gly Asp Pro Leu Asn Asn Thr Thr Pro Vai Thr Gly Ala Ser Pro Gly Gly Leu Arg Giu Leu Gin Leu Arg Ser Leu Thr Giu IIe Leu Lys Gly Gly Vai Leu IIe Gin Arg Asn Pro Gin Leu Cys Tyr Gin Asp Thr IIe Leu Irp Lys Asp IIe Phe His Lys Asn Asn Gin Leu Ala Leu Thr Leu IIe Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 200 210 220 Gly Ser Arg Cys Trp Gly Glu Ser Ser Glu Asp Cys Gin Ser Leu Thr Arg Thr Vai Cys Ala Gly Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gin Cys Ala Gly Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His Ser Gly IIe Cys Glu Leu His Cys Pro Ala Leu Vai Thr Tyr Asn Thr Asp Thr Phe Glu Ser Gly IIe Cys Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Vai Thr Ala Cys Pro 310 320 1310 320 144 157' Asn Tyr Leu Ser Thr Asp Vai Gly Ser Cys Thr Leu Vai Cys Pro Leu His Asn Gin Glu Asp Gly Met Glu His Leu Arg Glu Vai Arg Ala Vai Thr Ser Ala Asn Glo Glu Asp Gly Met Glu His Leu Arg Glu Vai Arg Ala Vai Thr Ser Ala Asn Glo Glu Asp Gly Met Glu His Leu Arg Glu Vai Arg Ala Vai Thr Ser Ala Asn Glo Glu Asp Gly Asp Pro Ala Gly Cys Lys Lys IIe Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Glu Gin Leu Gin Vai Phe
Gin Gly Tyr Val Leu Ile Ala His Asn Gin Val Arg Gin Val Pro Leu Gin Arg Leu Arg 110 110 110 110 110 110 110 1
Ite Val Arg Gly Thr Gin Leu Phe Glu Asp Asn Tyr Ala Leu Ala Val Leu Asp Asn Gly Asp Pro Leu Asn Asn Thr Thr Pro Val Thr Gly Ala Ser Pro Gly Gly Leu Arg Glu Leu 140 Gin Leu Arg Ser Leu Thr Glu Ite Leu Lys Gly Gly Val Leu Ite Gin Arg Asn Pro Gin 160 Leu Cys Tyr Gin Asp Thr Ite Leu Trp Lys Asp Ite Phe His Lys Asn Asn Gin Leu Ala 180 Leu Thr Leu Ite Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 200 210 220 220 Ala Gly Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gin Cys Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His 260 Seri Gly Ite Cys Glu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Glu 280 Seri Het Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 310 320 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Glin 320 Tyr Asn Tyr Leu Ser Thr Asp Gly His Leu Arg Glu Lys Cys Ser Lys Pro Cys Ala Arg 340 Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ite Glin Glu Phe Ala Gly Cys Lys Lys Ite Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser 380 Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Glin Pro Glu Glin Leu Glin Val Phe 400
Ile Val Arg Gly Thr Gin Leu Phe Glu Asp Asn Tyr Ala Leu Ala Val Leu Asp Asn Gly Asp Pro Leu Asn Asn Thr Thr Pro Val Thr Gly Ala Ser Pro Gly Gly Leu Arg Glu Leu Gin Leu Arg Ser Leu Thr Glu Ile Leu Lys Gly Gly Val Leu Ile Gin Arg Asn Pro Gin Leu Cys Tyr Gin Asp Thr Ile Leu Irp Lys Asp Ile Phe His Lys Asn Asn Gin Leu Ala Leu Thr Leu Ile Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 200 210 220 210 220 210 220 210 220 240 Ala Ely Ser Arg Cys Trp Gly Glu Ser Ser Glu Asp Cys Gin Ser Leu Thr Arg Thr Val Cys 240 Ala Ely Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gin Cys 240 Ala Ely Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His 260 Seri Gly Ile Cys Glu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Glu 280 Seri Het Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 310 320 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gin 320 Glu Asp Gly Thr Gli His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ile Gin Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser 380 Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Giu Gin Leu Gin Val Phe
Asp Pro Leu Asn Asn Thr Thr Pro Val Thr Gly Ala Ser Pro Gly Gly Leu Arg Glu Leu Gln Leu Arg Ser Leu Thr Glu Ite Leu Lys Gly Gly Val Leu Ite Gln Arg Asn Pro Gln Leu Cys Tyr Gln Asp Thr Ite Leu Trp Lys Asp Ite Phe His Lys Asn Asn Gln Leu Ala Leu Thr Leu Ite Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 200 210 220 Gly Ser Arg Cys Trp Gly Glu Ser Ser Glu Asp Cys Gln Ser Leu Thr Arg Thr Val Cys Ala Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His 260 Ser Gly Ite Cys Glu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Glu Ser Het Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 300 310 320 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln 320 Glu Val Thr Ala Glu Asp Gly Thr Gln Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg 340 Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ite Gln Glu Phe Ala Gly Cys Lys Lys Ite Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 400
Asp Pro Leu Asn Asn Thr Thr Pro Val Thr Gly Ala Ser Pro Gly Gly Leu Arg Glu Leu Gln Leu Arg Ser Leu Thr Glu Ite Leu Lys Gly Gly Val Leu Ite Gln Arg Asn Pro Gln Leu Cys Tyr Gln Asp Thr Ite Leu Trp Lys Asp Ite Phe His Lys Asn Asn Gln Leu Ala Leu Thr Leu Ite Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 200 210 220 Gly Ser Arg Cys Trp Gly Glu Ser Ser Glu Asp Cys Gln Ser Leu Thr Arg Thr Val Cys Ala Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His 260 Ser Gly Ite Cys Glu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Glu Ser Het Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 300 310 320 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln 320 Glu Val Thr Ala Glu Asp Gly Thr Gln Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg 340 Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ite Gln Glu Phe Ala Gly Cys Lys Lys Ite Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 400
Gin Leu Arg Ser Leu Thr Giu IIe Leu Lys Giy Giy Vai Leu IIe Gin Arg Asn Pro Gin Leu Cys Tyr Gin Asp Thr IIe Leu Trp Lys Asp IIe Phe His Lys Asn Asn Gin Leu Aia Leu Thr Leu IIe Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 200 210 220 Giy Ser Arg Cys Trp Giy Giu Ser Ser Giu Asp Cys Gin Ser Leu Thr Arg Thr Vai Cys Ala Giy Giy Cys Ala Arg Cys Lys Giy Pro Leu Pro Thr Asp Cys Cys His Giu Gin Cys Ala Ala Giy Cys Thr Giy Pro Lys His Ser Asp Cys Leu His Phe Asn His Ser Asp Cys Leu His Phe Asn His Ser Asp Cys Leu Vai Thr Tyr Asn Thr Asp Thr Phe Giu Ser Giy IIe Cys Giu Leu His Cys Pro Ala Leu Vai Thr Tyr Asn Thr Asp Thr Phe Giu Ser Tet Pro Asn Pro Giu Giy Arg Tyr Thr Phe Giy Ala Ser Cys Vai Thr Ala Cys Pro 310 320 Tyr Asn Tyr Leu Ser Thr Asp Vai Giy Ser Cys Thr Leu Vai Cys Pro Leu His Asn Gin Giu Vai Thr Ala Giu Asp Giy Thr Gin Arg Cys Giu Lys Cys Ser Lys Pro Cys Ala Arg Vai Cys Tyr Giy Leu Giy Met Glu His Leu Arg Giu Vai Arg Ala Vai Thr Ser Ala Asn IIe Gin Giu Phe Ala Giy Cys Lys Lys IIe Phe Giy Ser Leu Ala Phe Leu Pro Giu Ser Phe Asp Giy Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Giu Gin Leu Gin Vai Phe
Leu Cys Tyr Gin Asp Thr Ile Leu Trp Lys Asp Ile Phe His Lys Asn Asn Gin Leu Ala Leu Thr Leu Ile Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 210 220 Gly Ser Arg Cys Trp Gly Glu Ser Ser Glu Asp Cys Gin Ser Leu Thr Arg Thr Val Cys Ala Gly Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gin Cys Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His Ser Gly Ile Cys Glu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Glu Ser Het Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 300 310 320 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gin 320 Glu Val Thr Ala Glu Asp Gly Thr Gin Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ile Gin Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser 380 Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Glu Gin Leu Gin Val Phe
Leu Thr Leu IIe Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 220 210 220 Gly Ser Arg Cys Trp Gly Glu Ser Ser Glu Asp Cys Gln Ser Leu Thr Arg Thr Val Cys Ala Gly Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys Ala Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His 260 Ser Gly IIe Cys Glu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Glu Ser Het Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 300 310 320 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln Glu Val Thr Ala Glu Asp Gly Thr Gln Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn IIe Gln Glu Phe Ala Gly Cys Lys Lys IIe Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Rhe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 400
Glyi Ser Arg Cys Trp Gly Glu Ser Ser Glu Asp Cys Gln Ser Leu Thr Arg Thr Val Cys 220 Alai Gly Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys 240 Alai Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His 260 Ser Gly Ile Cys Glu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Glu 280 Ser Het Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 300 310 320 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln 320 Glu Val Thr Ala Glu Asp Gly Thr Gln Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg 340 Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ile Gln Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser 380 Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 400
Gly. Ser Arg Cys Trp Gly Glu Ser Ser Glu Asp Cys Gln Ser Leu Thr Arg Thr Val Cys 220 Ala. Gly Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys 240 Ala. Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His 260 Ser Gly Ile Cys Glu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Glu 280 Ser Het Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 300 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln 320 Glu Val Thr Ala Glu Asp Gly Thr Gin Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg 340 Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ile Gln Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser 380 Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 400
Ala-Gly Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys Ala-Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His Ser-Gly Ile Cys Glu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Glu Ser-Het Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 300 310 320 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln Glu Val Thr Ala Glu Asp Gly Thr Gln Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn Ile Gln Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 400
Ala-Gly Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys Ala-Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His Ser-Gly Ile Cys Glu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Glu Ser-Het Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 300 310 320 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln Glu Val Thr Ala Glu Asp Gly Thr Gln Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn Ile Gln Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 400
Ala Ala Giy Cys Thr Giy Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His 260 Ser Giy IIe Cys Giu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Giu 280 Ser Met Pro Asn Pro Giu Giy Arg Tyr Thr Phe Giy Ala Ser Cys Val Thr Ala Cys Pro 300 310 320 Tyr Asn Tyr Leu Ser Thr Asp Val Giy Ser Cys Thr Leu Val Cys Pro Leu His Asn Gin 320 Giu Val Thr Ala Giu Asp Giy Thr Gin Arg Cys Giu Lys Cys Ser Lys Pro Cys Ala Arg 340 Val Cys Tyr Giy Leu Giy Met Giu His Leu Arg Giu Val Arg Ala Val Thr Ser Ala Asn 360 IIe Gin Giu Phe Ala Giy Cys Lys Lys IIe Phe Giy Ser Leu Ala Phe Leu Pro Giu Ser 380 Phe Asp Giy Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Giu Gin Leu Gin Val Phe 400
Serificially Ile Cys Glu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Glu Serificial Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 300 310 320 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln Glu Val Thr Ala Glu Asp Gly Thr Gin Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ile Gln Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser 380 Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 400
310 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln Glu Val Thr Ala Glu Asp Gly Thr Gln Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn Ile Gln Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 400
Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln Glu Val Thr Ala Glu Asp Gly Thr Gln Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ile Gln Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 400
Glu-Val Thr Ala Glu Asp Gly Thr Gin Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg 340 Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ile-Gin Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser 380 Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Glu Gin Leu Gin Val Phe 400
Glu-Val Thr Ala Glu Asp Gly Thr Gin Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg 340 Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ile-Gin Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser 380 Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Glu Gin Leu Gin Val Phe 400
Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ile Gln Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser 380 Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 400
Ile Gin Giu Phe Ala Giy Cys Lys Lie Phe Giy Ser Leu Ala Phe Leu Pro Giu Ser 380 Phe Asp Giy Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Giu Gin Leu Gin Val Phe 400
Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Glu Gin Leu Gin Val Phe 400
410
Giu Thr Leu Giu Giu Ile Thr Giy Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu Pro 420
Asp Leu Ser Val Phe Gin Asn Leu Gin Val Ile Arg Gly Arg-Ile Leu His Asn Gly Ala 440
Tyr Ser Leu Thr Leu Gin Gly Leu Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu 460
Leu Gly Ser Gly Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val 480
Pro Trp Asp Gin Leu Phe Arg Asn Pro His Gin Ala Leu Leu His Thr Ala Asn Arg Pro 500
510 520
Glu Asp Glu Cys Val Gly Glu Gly Leu Ala Cys His Gln Leu Cys Ala Arg Gly His Cys 520
Trp Gly Pro Gly Pro Thr Gln Cys Val Asn Cys Ser Gln Phe Leu Arg Gly Gln Glu Cys 540
Val Glu Glu Cys Arg Val Leu Gln Gly Leu Pro Arg Glu Tyr Val Asn Ala Arg His Cys 560
Leu Pro Cys His Pro Glu Cys Gin Pro Gin Asn Gly Ser Val Thr Cys Phe Gly Pro Glu 580
Ala Asp Gin Cys Val Ala Cys Ala His Tyr Lys Asp Pro Pro Phe Cys Val Ala Arg Cys 600
610 620
Pro Ser Gly Val Lys Pro Asp Leu Ser Tyr Met Pro Ile Trp Lys Phe Pro Asp Glu Glu 620
Gly Ala Cys Gin Pro Cys Pro Ile Asn Cys Thr His Ser Cys Val Asp Leu Asp Asp Lys 640
Gly Cys Pro Ala Glu Gin Arg Ala Ser Pro Leu Thr Ser 653

Fig. 10 (SEQ ID NO: 4)

	20
Gin Asn Giu Asp Leu Giy Pro Ala Ser Pro Leu Asp Ser Thr Phe Tyr Arg Ser Leu L Giu Asp Asp Asp Met Giy Asp Leu Vai Asp Ala Giu Giu Tyr Leu Vai Pro Gin Gin G Phe Phe Cys Pro Asp Pro Ala Pro Giy Ala Giy Giy Met Vai His His Arg His Arg S Ser Ser Thr Arg Ser Giy Giy Giy Asp Leu Thr Leu Giy Leu Giu Pro Ser Giu Giu G Ala Pro Arg Ser Pro Leu Ala Pro Ser Giu Giy Ala Giy Ser Asp Vai Phe Asp Giy A	Gly 40 Ser 60 Glu 80 Usp 100
	20
Leu Gly Met Gly Ala Ala Lys Gly Leu Gln Ser Leu Pro Thr His Asp Pro Ser Pro L Gln Arg Tyr Ser Glu Asp Pro Thr Val Pro Leu Pro Ser Glu Thr Asp Gly Tyr Val A Pro Leu Thr Cys Ser Pro Gln Pro Glu Tyr Val Asn Gln Pro Asp Val Arg Pro Gln Pro Ser Pro Arg Glu Gly Pro Leu Pro Ala Ala Arg Pro Ala Gly Ala Thr Leu Glu A Pro Lys Thr Leu Ser Pro Gly Lys Asn Gly Val Val Lys Asp Val Phe Ala Phe Gly G	Ala 140 Pro 160 Pro 180
Ala Vai Giu Asn Pro Giu Tyr Leu Thr Pro Gin Giy Giy Ala Ala Pro Gin Pro His Pi Pro Pro Ala Phe Ser Pro Ala Phe Asp Asn Leu Tyr Tyr Trp Asp Gin Asp Pro Pro G Arg Giy Ala Pro Pro Ser Thr Phe Lys Giy Thr Pro Thr Ala Giu Asn Pro Giu Tyr Le Giy Deu Asp Vai Pro Vai • 267	SIG 240

Fig. 11 (SEQ ID NO: 5)

Gin Asn Giu Asp Leu Giy Pro Ala Ser Pro Leu Asp Ser Thr Phe Tyr Arg Ser Leu Leu 20 Giu Asp Asp Asp Met Giy Asp Leu Val Asp Ala Giu Giu Tyr Leu Val Pro Gin Gin Giy 40	10	20	
Giu Asp Asp Asp Met Giy Asp Leu Val Asp Ala Giu Giu Tyr Leu Val Pro Gin Gin Giy 40			
Phe Phe Cys Pro Asp Pro Ala Pro Gly Ala Gly Gly Met Val His His Arg His Arg . 60			

Fig. 12 (SEQ ID NO: 6)

10 20		
		
Met Glu Leu Ala Ala Leu Cys Arg Trp Gly Leu Leu Leu Ala Leu Leu Pro Pro Gly Ala Ala Ser Thr Gln Val Cys Thr Gly Thr Asp Met Lys Leu Arg Leu Pro Ala Ser Pro Glu	20	
The His Leu Asp Met Leu Arg His Leu Tyr Gln Gly Cys Gln Val Val Gln Gly Asn Leu Glu Leu The Tyr Leu Pro The Ass Ala Carrier Charles	40	
and the trivial type the trivial to the Asia and the Asia	60	
Gin Gly Tyr Val Leu Ile Ala His Asn Gin Val Arg Gin Val Pro Leu Gin Arg Leu Arg	80	
110	100	
110	,	
Ile Val Arg Gly Thr Gln Leu Phe Glu Asp Asn Tyr Ala Leu Ala Val Leu Asp Asn Gly	100	
The property and the till and the property and sac property and any are contained.	120	
and the did the life in the life in the life of the Asset Ass. One	140	
Led by by dill ASP till the Ley ICD LVS ASD THE Phe His IVS ASD ASD DID LOW ALC	160 180	
Leu Ihr Leu Ile Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys	200	
= 010	200	
Gly Ser Arg Cys Trp Gly Glu Ser Ser Glu Asp Cys Gln Ser Leu Thr Arg Thr Val Cys	220	
ANGERIA AIA CAS AIG AIG CAS LAS GIV Pro Leu Pro Thr Aso Cas Cas Ais Cit. Cis Cas	240	
ANGERIA GIY CYS ITH GIY FTO LYS HIS SET ASO TVS LAU AIG TVS LAU HIS PEO AGE U.S.	260	
series in the cys did Led his cys pro Ald Led Vol The Tye Ago The Ago The Obs Co	280	• .
Seriffet Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro	300	
310		
Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gin	320	
HIM: #91 THE AND GIV ADD GIV THE GID AFOLVS HILL IVE EVE Sec I LE DES CLE ALE ALE	340	
THE SET OF THE COURSE OF THE COURSE AND THE COURSE AND THE COURSE	360	
THE HAIT GIVE THE AIR GIV CYS LYS LYS HE PINE GIV SET LEW AIR PINE LOW DOG CH. Co.	380	
The Asp div Asp 110 Aid Sel Ash the Aid Pro Leu Gin Pro Glu Gin Leu Gin Val Phe	400	
410 420	,	
Glu Tho Leu Glu Glu Ille Tho Chy Typ Lou To Un Con the To D		
Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg Gly Arg Ile Leu His Asn Gly Ala	420	
Tyr Ser Leu Thr Leu Gin Gly Leu Gly Ile Ser Trp Leu Gly Leu Arg Glu	440	
Leu Gly Ser Gly Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val	460 480	
Pro Trp Asp Gin Leu Phe Arg Asn Pro His Gin Ala Leu Leu His Thr Ala Asn Arg Pro	480 500	
510 520	300	
Glu Asp Glu Cys Val Gly Glu Gly Leu Ala Cys His Gin Leu Cys Ala Arg Gly His Cys	520	
in Plany Fro any Fro infi an Lys val Ash Lys Sec Gin Phe Leu Ara Giv Gin Civ. Coo	540	
val Glu Glu Cys Arg val Leu Gin Gly Leu Pro Arg Glu Tyr Val Asa Ala Arg His Cys	560	
Ley Fro Lys his Fro Giu Lys Gin Pro Gin Ash Giv Ser Val The Cve Pha Giv Dea Cu.	580	
Ala Asp Gin Cys Val Ala Cys Ala His Tyr Lys Asp Pro Pro Phe Cys Val Ala Arg Cys	600	

Fig. 12 (SEQ ID NO: 6)

610	620
Pro Ser Gly Val Lys Pro Asp Leu Ser Tyr Me Gly Ala Cys Gln Pro Cys Pro IIe Asn Cys Tr Gly Cys Pro Ala Glu Gln Arg Ala Ser Pro Le Ala Ser Pro Leu Asp Ser Thr Phe Tyr Arg Se Leu Val Asp Ala Glu Glu Tyr Leu Val Pro Gl 710	r His Ser Cys Val Asp Leu Asp Asp Lys 640 u Thr Ser Gin Ash Giu Asp Leu Giy Pro 660
Pro Gly Ala Gly Gly Met Val His His Arg His Gly Asp Leu Thr Leu Gly Leu Glu Pro Ser Gle Pro Ser Glu Gly Ala Gly Ser Asp Val Phe As Gly Leu Gln Ser Leu Pro Thr His Asp Pro Se This Val Pro Leu Pro Ser Glu Thr Asp Gly Ty	u Glu Glu Ala Pro Arg Ser Pro Leu Ala 740 o Gly Asp Leu Gly Met Gly Ala Ala Lys 760 r Pro Leu Gln Ara Tvr Ser Glu Asp Pro 780
Pro Glu Tyr Val Asn Gln Pro Asp Val Arg Pro Leu Pro Ala Ala Arg Pro Ala Gly Ala Thr Leu Lys Asn Gly Val Val Lys Asp Val Phe Ala Pho Leu Thr Pro Gln Gly Gly Ala Ala Pro Gln Pro Phe Asp Asn Leu Tyr Tyr Trp Asp Gln Asp Pro 910 Phe Lys Gly Thr Pro Thr Ala Glu Asn Pro Glo	Glu Arg Pro Lys Thr Leu Ser Pro Gly 840 E Gly Gly Ala Val Glu Asn Pro Glu Tyr 860 D His Pro Pro Pro Ala Phe Ser Pro Ala 880 D Pro Glu Arg Gly Ala Pro Pro Ser Thr 900 920

	10	20
		
Met Glu Leu Ala Ala Leu Cys Arg Trp	Gly Leu Leu Leu Ala Leu Leu Pro Pro Gly	Ala 20
	Asp Met Lys Leu Arg Leu Pro Ala Ser Pro	
	Tyr Gin Gly Cys Gin Val Val Gin Gly Asn	
Gli Ley The Tye Ley Pro The Aso Ala	Ser Leu Ser Phe Leu Gin Asp Ile Gin Giu	Val 80
	Gin Vai Arg Gin Vai Pro Leu Gin Arg Leu	
diri diy iyi tai aca ne na ma na	_	
_	110	120
		
lle Val Arg Gly Inr Gin Leu Phe Glu	Asp Asn Tyr Ala Leu Ala Val Leu Asp Asn	Gly 120
Asp Pro Leu Asn Asn Ihr Ihr Pro Val	Thr Gly Ala Ser Pro Gly Gly Leu Arg Glu	Leu 140
Gin Leu Arg Ser Leu Thr Glu. Ile Leu	Lys Gly Gly Val Leu IIe Gin Arg Asn Pro	GIn 160
	Lys Asp Ile Phe His Lys Asn Asn Gln Leu	
Leu Thr Leu lie Asp Thr Asn Arg Ser	' Arg Ala Cys His Pro Cys Ser Pro Met Cys	Lys 200
	210	220
·		
Gly Ser Ara Cys Tro Gly Gly Ser Ser	Glu Asp Cys Gln Ser Leu Thr Arg Thr Val	Cys 220
Alo Gly Gly Cys Alo Ara Cys Lys Gly	Pro Leu Pro Thr Asp Cys Cys His Glu Gin	Cys 240
	Ser Asp Cys Leu Ala Cys Leu His Phe Asn	
	Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe	
Ser Het Flo Asii Flo Gid Giy Arg Tyr	Thr Phe Gly Ala Ser Cys Val Thr Ala Cys	
	310	320
	Ser Cys Thr Leu Vol Cys Pro Leu His Asn	
Gluttal Thr Ala Glu Asp Gly Thr Gln	Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala	
Val Eys Tyr Gly Leu Gly Met Glu His	Lou Arg Glu Val Arg Ala Val Thr Ser Ala	
Ile Gin Glu Phe Ala Gly Cys Lys Lys	i Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu	
Phetasp Gly Asp Pro Ala Ser Asn Thr	· Ala Pro Leu Gin Pro Giu Gin Leu Gin Val	Phe 400
; <u> </u>	410	420
		1
Glutthr Lou Glu Glu Ile Thr Gly Tyr	Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu	Pro 420
	Val Ile Arg Gly Arg Ile Leu His Ash Gly	
	Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg	
	His Asn Thr His Leu Cys Phe Val His Thr	
	His Gln Ala Leu Leu His Thr Ala Asn Arg	
The the trace and see that the see a second	and the second s	520
	510	520
Ch. Ass Ch. Cus Vol. Ch. Ch. Ch. Le.	Ala Cys His Gin Leu Cys Ala Arg Gly His	Cys 520
	Asn Cys Ser Gin Phe Leu Arg Gly Gin Glu	_
		·
	Leu Pro Arg Glu Tyr Val Ash Ala Arg His	•
	O GIN ASH GIY SET VOI THE CYS Phe GIY Pro	
Ald ASP GIN LYS VOI AID LYS AID HIS	Tyr Lys Asp Pro Pro Phe Cys Val Ala Arg	cys 600
	010	620
	610	620
Des Cas Chy Mai Lua Rea Aso Leu Sas	Tyr Met Pro Ile Trp Lys Phe Pro Asp Glu	Glu 620
Pro ser Gly Val Lys Pro Asp Leu Ser	THE THE HE SEE CHE VOL ASS LET ASS ASS	
	n Cys Thr His Ser Cys Val Asp Leu Asp Asp	
	Pro Leu Thr Ser Gin Ash Giu Asp Leu Gly	4
Ald Ser Pro Leu Asp Ser Inc Phe Tyr	Arg Ser Leu Leu Glu Asp Asp Asp Met Gly	<u> </u>
Leu Val Asp Ala Glu Glu lyr Leu Val	Pro Gin Giy Phe Phe Cys Pro Asp Pro	
	710	720
Pro Gly Ala Gly Gly Met Val His His	Arg His Arg • • 714	

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Fig. 14 (SEQ ID NO: 8)

	10	20
Met Glu Leu Ala Ala Trp Cys Arg Trp	O Gly Phe Leu Leu Alo Leu Leu	Pro Pro Gly Ile 20
Ala Gly Thr Gln Val Cys Thr Gly Thi	r Asp Met Lys Leu Arg Leu Pro	Ala Ser Pro Glu 40
Thr His Leu Asp Met Leu Arg His Lei	u Tyr Gln Gly Cys Gln Val Val	GIN GIV ASA Leu 60
Glu Leu Thr Tyr Val Pro Ala Asn Ala	a Ser Leu Ser Phe Lou Gin Asp	Ile Gin Glu Vai 80
Gln Gly Tyr Met Leu Ile Ala Hıs Ası	n Gln Val Lys Arg Val Pro Leu	Gin Arg Leu Arg 100
_	110	120
The Vet Age Ch. The Chaire Physical		
Jie Val Arg Gly Thr Gin Leu Phe Glu	ASP Lys lyr Ala Leu Ala Val	Leu Asp Asn Arg 120
Asp Pro Gin Asp Asn Val Ala Ala Ser Leu Gin Leu Arg Ser Leu Thr Giu Ile	THE FEE GIV ATT THE GIV	Gly Leu Arg Glu 140 Arg Gly Asn Pro 160
Gin Leu Cys Tyr Gin Asp Met Val Leu	I Tro I vs Aso Vol Phe Aca I vs	Asn Asn Gin Leu 180
Ala Pro Val Asp Ile Asp Thr Ash Arg	Ser Ara Ala Cvs Pro Pro Cvs	Ala Pro Ala Cys 200
•	210	220
Lys-Asp Asn His Cys Trp Gly Glu Ser	Pro Glu Asp Cys Gin Ile Leu	Thr Gly Thr Ile 220
Cysthr Ser Gly Cys Ala Arg Cys Lys	Gly Arg Leu Pro Thr Asp Cys	Cys His Glu Gln 240
Cys Ala Ala Gly Cys Thr Gly Pro Lys	S His Ser Asp Cys Leu Ala Cys	Leu His Phe Ash 260
HIS Ser Gly Ile Cys Glu Leu His Cys	Fro Ala Leu Val Ihr lyr Asn	The Asp The Phe 280
Glu Ser Met His Asn Pro Glu Gly Arg		
	310	320
Pro Tyr Asn Tyr Leu Ser Thr Glu Val	Gly Ser Cys Thr Ley Vol Cys	Pro Pro Asn Asn 320
Gin Glu Val The Ala Glu Asp Gly The	Gla Ara Cys Glu Lys Cys Sec	Lys Pro Cys Ala 340
Arg: Val Cys Tyr Gly Leu Gly Met Glu	His Leu Arg Gly Ala Arg Ala	Ile Thr Ser Asp 360
Asp. Val Gin Giu Phe Asp Gly Cys Lys	Lys Ile Phe Gly Ser Leu Ala	Phe Leu Pro Glu 380
Ser Phe Asp Gly Asp Pro Ser Ser Gly	Ile Ala Pro Leu Arg Pro Glu	Gin Leu Gin Val 400
<u>i</u> e	410	420
Phe Glu Thr Leu Glu Glu Ile Thr Gly	Tyr Leu Tyr Ile Ser Ala Trp	Pro Asp Ser Leu 420
Arg Asp Leu Ser Val Phe Gin Ash Leu	Arg He He Arg Gly Arg He	Leu His Asp Gly 440
Ala Tyr Ser Leu Thr Leu Gin Gly Leu Glu Leu Gly Ser Gly Leu Ala Leu Ile	His Aco Aso Alo His Leu Cue	Arg Ser Leu Arg 460 Phe Val His Thr 480
Val Pro Trp Asp Gin Leu Phe Arg Asr	Pro His Gln Ala Leu Leu His	Ser Gly Asn Arg 500
	510	520
<u> </u>		
Pro Glu Glu Asp Cys Gly Leu Glu Gly	Leu Val Cys Asn Ser Leu Cys	Ala His Gly His 520
Cys Trp Gly Pro Gly Pro Thr Gln Cys	s Val Asn Cys Ser His Phe Leu	Arg Gly Gln Glu 540
Cys Val Glu Glu Cys Arg Val Trp Lys	Gly Leu Pro Arg Glu Tyr Val	Ser Asp Lys Arg 560
Cys Leu Pro Cys His Pro Glu Cys Gir	ro Gin Asn Ser Ser Glu Thr	Cys Phe Gly Ser 580
Glu Ala Asp Gln Cys Ala Ala Cys Ala	i nis lyr Lys Asp Ser Ser Ser	Cys Val Ala Arg 600
· ·		
	610	620
Cys Pro Ser Gly Val Lys Pro Asp Leu	Ser Tyr Met Pro Ile Trp Lvs	Tyr Pro Asp Glu 620
GIV GIV THE LYS GIN PRO LYS PRO HE	ASO Evs Thr His Ser Evs Val	Asp Leu Asp Glu 640
Arg Gly Cys Pro Ala Glu Gin Arg Ala	Ser Pro Val Thr Phe 654	

			CGC					48
			CAA. G1n					96
			GAG Glu 40					144
		-	GTG Val	 				192
			TCC Ser					240
			CAC His					288
			GGC Gly	Gln				336
	۷a٦						CCT Pro	384

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			GGA Gly 135						432
			GGA Gly						480
			ATT Ile						528
	_		CTG Leu						576
			TGT Cys				•		624
			CTG Leu 215					. •	672
			CTG Leu						720
			CCC Pro						768
			ATC Ile						816
			TTT Phe						864
			TGT Cys 295						912

GAG GTG ACA GCA GAG GAT GGA ACA CAG CGG TGT GAG AAG TGC AGC AAG Glu Val Thr Ala Glu Asp Gly Thr Gln Arg Cys Glu Lys Cys Ser Lys 325 CCC TGT GCC CGA GTG TGC TAT GGT CTG GGC ATG GAG CAC TTG CGA GAG Pro Cys Ala Arg Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu 340 GTG AGG GCA GTT ACC AGT GCC AAT ATC CAG GAG TTT GCT GGC TGC AAG Val Arg Ala Val Thr Ser Ala Asn Ile Gln Glu Phe Ala Gly Cys Lys 355 AAG ATC TTT GGG AGC CTG GCA TTT CTG CCG GAG AGC TTT GAT GGG GAC Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp 375 CCA GCC TCC AAC ACT GCC CCG CTC CAG CCA GAG CAG CTC CAA GTG TTT Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 385 GAG ACT CTG GAA GAG ATC ACA GGT TAC CTA TAC ATC TCA GCA TGG CCG Asp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg 420 GGA CGA ATT CTG CAC AT GGC GCC TAC TGC CTG ACC CTG CAA GGG CTG Gly Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu 435 CCG GCC CTC ACC CTG GGG CTG CGC TCA CTG AGG GAA CTG CAA GGG CTG Gly Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu 435 CCG CTC CTC ACC CTG CAC CAT CAC CTC CAC CTG CTG CAC GGG CAC CTG CAA GGG CTG Gly Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu 455 CCG CCC CTC ATC CAC CAT AAC ACC CAC CTC TGC TTC TTC GTG CAC ACG GTG ACC ATC AGC CTG GGG CTG CGC TCA CTG AGG GAA CTG GGC AGT GGA CCG CTC CTC ATC CAC CAT AAC ACC CAC CTC TCC TTC CTG CAC CAC CTG CAC CTG CAC CCG CCC CTC CAC CAC CAT CAC CTC CTC CTC CTC		TCT Ser 305					TCC Ser 310											960
Pro Cys Ala Arg Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu 345 GTG AGG GCA GTT ACC AGT GCC AAT ATC CAG GAG TTT GCT GGC TGC AAG Val Arg Ala Val Thr Ser Ala Asn Ile Gln Glu Phe Ala Gly Cys Lys 355 AAG ATC TTT GGG AGC CTG GCA TTT CTG CCG GAG AGC TTT GAT GGG GAC Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp 370 CCA GCC TCC AAC ACT GCC CCG CTC CAG CCA GAG CAG CTC CAA GTG TTT Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 385 GAG ACT CTG GAA GAG ATC ACA GGT TAC CTA TAC ATC TCA GCA TGG CCG Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro 405 GAC AGC CTG CCT GAC CTC AGC GTC TTC CAG AAC CTG CAA GTA ATC CGG Asp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg 420 GGA CGA ATT CTG CAC AAT GGC GCC TAC TCG CTG ACC CTG CAA GGG CTG GGA CGA TTC CGC CTG GGG CTG CGC TAC TCG CTG ACC CTG CAA GGG CTG GGA CGA TTC CGC CGG CTC CGC TCC CTG CTG CAC CTG CAA GGG CTG GGA CGA TTC CGC CGG CTG CGC TCA CTC CGG CTG CCG CTG CAA GGG CTG GGA CGA TTC CGC CGC TCC CGC TCC CTG CTG CCC CTG CAA GGG CTG GGA CGA TTC CGC CGC TCC CGC TCA CTC CGC TAC TCC CTG CAC CTG CAA GGG CTG GGC ATC AGC TGG CTG GGG CTG CGC TCA CTG AGC GAC CTG CAA GGG CTG GGC ATC AGC TGG CTG GGG CTG CGC TCA CTG AGG GAA CTG GGC AGT GGA GIY Ile Ser Trp Leu GIY Leu Arg Ser Leu Arg Glu Leu GIY Ser GIY 450 CTG GCC CTC ATC CAC CAT AAC ACC CAC CTC TGC TTC CTG CAC ACG GTG Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val						Glu					Arg					Ser		1008
Val Arg Ala Val Thr Ser Ala Asn Ile Gln Glu Phe Ala Gly Cys Lys 355 360 365 AAG ATC TTT GGG AGC CTG GCA TTT CTG CCG GAG AGC TTT GAT GGG GAC Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp 370 375 380 CCA GCC TCC AAC ACT GCC CCG CTC CAG CCA GAG CAG CTC CAA GTG TTT Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 385 390 395 GAG ACT CTG GAA GAG ATC ACA GGT TAC CTA TAC ATC TCA GCA TGG CCG Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro 405 GAC AGC CTG CCT GAC CTC AGC GTC TTC CAG AAC CTG CAA GTA ATC CGG Asp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg 420 GGA CGA ATT CTG CAC AAT GGC GCC TAC TAC TCG CTG ACC CTG CAA GGG CTG GGY Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu 435 GGC ATC AGC TGG CTG GGG CTG CGC TCA CTG AGG GAA CTG GGC AGT GGA GIy Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly 450 CTG GCC CTC ATC CAC CAT AAC ACC CAC CTC TGC TTC GTG CAC ACG GTG Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val					Arg					Leu					Leu			1056
CCA GCC TCC AAC ACT GCC CCG CTC CAG CCA GAG CAG CTC CAA GTG TTT Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 385 GAG ACT CTG GAA GAG ATC ACA GGT TAC CTA TAC ATC TCA GCA TGG CCG Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro 405 GAC AGC CTG CCT GAC CTC AGC GTC TTC CAG AAC CTG CAA GTA ATC CGG ASp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg 420 GGA CGA ATT CTG CAC AAT GGC GCC TAC TCG CTG ACC CTG CAA GGG CTG GIy Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu 445 GGC ATC AGC TGG CTG GGG CTG CGC TCA CTG AGG GAA CTG GGC AGT GGA GIY Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly 450 CTG GCC CTC ATC CAC CAT AAC ACC CAC CTC TGC TTC GTG CAC ACG GTG Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			Ala					Asn					Ala				1104
CCA GCC TCC AAC ACT GCC CCG CTC CAG CCA GAG CAG CTC CAA GTG TTT Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 385 GAG ACT CTG GAA GAG ATC ACA GGT TAC CTA TAC ATC TCA GCA TGG CCG Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro 405 GAC AGC CTG CCT GAC CTC AGC GTC TTC CAG AAC CTG CAA GTA ATC CGG ASp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg 420 GGA CGA ATT CTG CAC AAT GGC GCC TAC TCG CTG ACC CTG CAA GGG CTG GIy Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu 445 GGC ATC AGC TGG CTG GGG CTG CGC TCA CTG AGG GAA CTG GGC AGT GGA GIY Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly 450 CTG GCC CTC ATC CAC CAT AAC ACC CAC CTC TGC TTC GTG CAC ACG GTG Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val			Пe					Ala					Ser					1152
GAC AGC CTG CCT GAC CTC AGC GTC TTC CAG AAC CTG CAA GTA ATC CGG Asp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg 420 GGA CGA ATT CTG CAC AAT GGC GCC TAC TCG CTG ACC CTG CAA GGG CTG Gly Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu 435 GGC ATC AGC TGG CTG GGG CTG CGC TCA CTG AGG GAA CTG GGC AGT GGA Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly 455 CTG GCC CTC ATC CAC CAT AAC ACC CAC CTC TGC TTC GTG CAC ACG GTG Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val		Pro					Ala					Glu					Phe	1200
Asp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg 420 GGA CGA ATT CTG CAC AAT GGC GCC TAC TCG CTG ACC CTG CAA GGG CTG Gly Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu 435 GGC ATC AGC TGG CTG GGG CTG CGC TCA CTG AGG GAA CTG GGC AGT GGA Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly 450 CTG GCC CTC ATC CAC CAT AAC ACC CAC CTC TGC TTC GTG CAC ACG GTG Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val	And the tent					Glu					Leu					Trp		1248
Gly Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu 435 GGC ATC AGC TGG CTG GGG CTG CGC TCA CTG AGG GAA CTG GGC AGT GGA Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly 450 CTG GCC CTC ATC CAC CAT AAC ACC CAC CTC TGC TTC GTG CAC ACG GTG Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val					Pro					Phe					۷al			1296
Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly 450 CTG GCC CTC ATC CAC CAT AAC ACC CAC CTC TGC TTC GTG CAC ACG GTG Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val				Ile					Ala	Tyr				Leu				1344
Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val		GGC Gly	Ile	Ser	TGG Trp	CTG Leu	GGG Gly	Leu	Arg	TCA Ser	CTG Leu	AGG Arg	Glu	Leu	GGC Gly	AGT Ser	GGA Gly	1392
		Leu	Ala	CTC Leu	ATC Ile	CAC	His	Asn	ACC Thr	CAC His	CTC Leu	Cys	Phe	GTG Val	CAC His	ACG Thr	Val	1440

						CGG Arg											1488
						GAG G1u											1536
_						CAC His										•	1584
						CTT Leu 535											1632
-						CCC Pro											1680
						TGT Cys											1728
						CAG Gln											1776
						CGC Arg											1824
		Met				AAG Lys 615											1872
						ACC Thr											1920
GGC Gly	TGC Cys	CCC Pro	GCC Ala	GAG G1u 645	Gln	AGA Arg	GCC Ala	AGC Ser	CCT Pro 650	Leu	ACG Thr	TCC Ser	ATC Ile	ATC Ile 655	TCT Ser		1968
				Ile		CTG Leu			۷a٦					Phe	GGG Gly		2016

Fig. 15 (SEQ ID NO: 9)

						Gln						TAC Tyr 685					2064
					Thr							ACA Thr					2112
												GAG Glu					2160
												ACA Thr					2208
												CCA Pro					2256
												AAA Lys 765					2304
GAC Asp	GAA G1u 770	GCA Ala	TAC Tyr	GTG Val	ATG Met	GCT Ala 775	GGT Gly	GTG Val	GGC Gly	TCC Ser	CCA Pro 780	TAT Tyr	GTC Val	TCC Ser	CGC Arg		2352
	Leu										Leu	GTG Val				-	2400
ATG Met	CCC Pro	TAT Tyr	GGC Gly	TGC Cys 805	Leu	TTA Leu	GAC Asp	CAT His	GTC Val 810	Arg	GAA Glu	AAC ASN	CGC Arg	GGA Gly 815	Arg		2448
CTG Let	GGC Gly	TCC Ser	CAG Gln 820	Asp	CTG Leu	CTG Leu	AAC Asr	TGG Trp 825	Cys	ATG Met	G CAC	ATT i Ile	GCC Ala 830	Lys	GGG Gly		2496
AT(Me1	G AGO Ser	TAC Tyr	Leu	GAG Glu	GAT Asp	GTG Val	CG(Arg 84(g Lei	GT/ J Va	A CAC I His	AG(Arg	G GAC G Asp 845	Leu	GCC Ala	GCT Ala		2544

AAC Asn 850												2592
CTG Leu												2640
GGC Gly												2688
CGG Arg												2736
GAG G1u												2784
GAG G1u 930												2832
ATC Ile												2880
GAC Asp												2928
CGC Arg										Asn		2976
TTG Leu					Asp				Arg			3024
 GAG Glu 1010	Asp			Asp	_	-		Glu				3072

GTA CCC CAG CAG Val Pro Gln Gln 1025			
GGC ATG GTC CAC Gly Met Val His			Gly
GGG GAC CTG ACA Gly Asp Leu Thr 1060	Leu Gly Leu Glu		
TCT CCA CTG GCA Ser Pro Leu Ala 1075		Ala Gly Ser As	
GAC CTG GGA ATG Asp Leu Gly Met 1090		Gly Leu Gln Se	
GAC CCC AGC CCT Asp Pro Ser Pro 1105			
CCC TCT GAG ACT Pro Ser Glu Thr			Gln
CCT GAA TAT GTG Pro Glu Tyr Val 1140	Asn Gln Pro Asp		
CGA GAG GGC CCT Arg Glu Gly Pro 1155		Arg Pro Ala Gl	
AGG CCC AAG ACT Arg Pro Lys Thr 1170		Lys Asn Gly Va	
TTT GCC TTT GGG Phe Ala Phe Gly 1185			

					Gln	Pro			Pro				Pro	Ala	3648
													1215	_	
						TGG Trp									3696
	•		1220	-	•	•	- •	5				1230	•		
						GGG									3744
Pro	Pro	Ser 1235		Phe	Lys	Gly	Thr 1240	Thr	Ala	Glu	Asn 1249		Glu	Tyr	
0T 0	007				004	070									27.60
	GGI					GTG Val	IGA			·					3768
	1250)				1255									

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Herceptin Binding by Direct Elisa 10/5/99

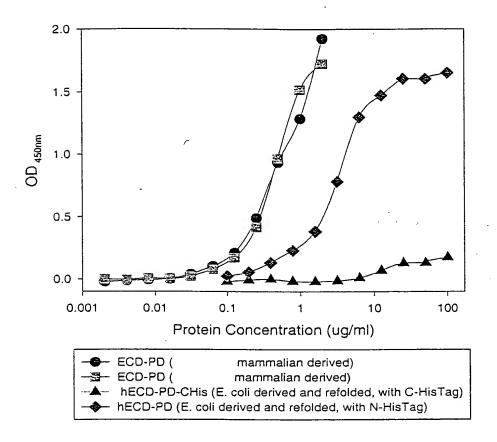
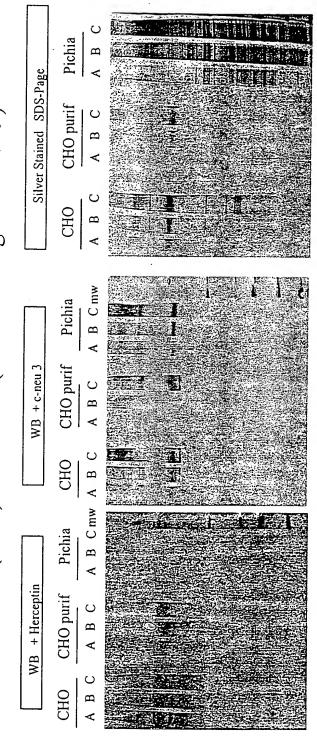


Fig. 17

Comparaison of Her2neu ECD-PD Expression in CHO-K1 (S/SF) and Pichia (Non reducing conditions)



Legend : CHO; A, B, C = 2.5μ l / 5μ l / 10μ l

CHO purif, A, B, C = 125ng / 250ng / 500ng

Pichia; A,B,C = $2,5\mu$ I / 5μ I / 10μ I from a 1/30 dilution of OD 120

Fig. 19 (SEQ ID NO:11)

atggagctgg	cggcctggtg	ccgttggggg	ttcctcctcg	ccctcctgtc	ccccggagcc	60
gcgggtaccc	aagtgtgtac	cggtaccgac	atgaagttgc	gactccctgc	cagtcctgag	120
acccacctgg	acatgcttcg	ccacctctac	cagggctgtc	aggtggtgca	gggcaatttg	180
gagcttacct	acctgcccgc	caatgccagc	ctctcattcc	tgcaggacat	ccaggaagtc	240
cagggataca	tgctcatcgc	tcacaaccga	gtgaaacacg	tcccactgca	gaggttgcgc	300
atcgtgagag	ggactcagct	ctttgaggac	aagtatgccc	tggctgtgct	agacaaccga	360
		caccgccgcc				420
		agagatcttg				480
		ggttttgtgg				540
gctcctgtcg	acatggacac	caatcgttcc	cgggcctgtc	caccttgtgc	cccaacctgc	600
		tgagagtcct				660
tgtactagtg	gctgtgcccg	gtgcaagggc	cggctgccca	ctgactgttg	ccatgagcag	720
		tcccaagcat				780
catagtggta	tctgtgagct	gcactgcccg	gccctcatca	cctacaacac	agacaccttc	840
gagtccatgc	tcaaccctga	gggtcgctac	acctttggtg	ccagctgtgt	gaccacctgc	900
ccctacaact	acctctccac	ggaagtggga	tcctgcactc	tggtctgtcc	cccgaacaac	960
caagaggtca	cagctgagga	cggaacacag	cggtgtgaga	aatgcagcaa	gccctgtgct	1020
ggagtatgct	atggtctggg	catggagcac	ctccgagggg	cgagggccat	caccagtgac	1080
aatatccagg	agtttgctgg	ctgcaagaag	atctttggga	gcctggcatt	tttgccggag	1140
agctttgatg	ggaacccctc	ctccggcgtt	gccccactga	agccagagca	tctccaagtg	1200
ttcgaaaccc	tggaggagat	cacaggttac	ctatacattt	cagcatggcc	agagagcttc	1260
caagacctca	gtgtcttcca	gaaccttcgg	gtcattcggg	gacggattct	ccatgatggt	1320
gcttactcat	tgacgttgca	aggcctgggg	attcactcac	tggggctacg	ctcactgcgg	1380
gagctgggca	gtggattggc	tctcattcac	cgcaacaccc	atctctgctt	tgtaaacact	1440
gtaccttggg	accagctctt	ccggaacccg	caccaggccc	tactccacag	tgggaaccgg	1500
ccagaagagg	catgtggtct	tgagggcttg	gtctgtaact	cactgtgtgc	ccgtgggcac	1560
tgctgggggc	cagggcccac	ccagtgtgtc	aactgcagtc	agttcctccg	gggccaggag	1620
tgtgtggagg	agtgccgagt	atggaagggg	ctccccaggg	agtatgtgag	gggcaagcac	1680
tgtctgccat	gccaccccga	gtgtcagcct	caaaacagct	cggagacctg	ctatggatcg	1740
gaggctgacc	agtgtgaggc	ttgtgcccac	tacaaggact	catcttcctg	tgtggctcgc	1800
tgccccagtg	gtgtgaagcc	agacctctcc	tacatgccta	tctggaagta	cccggatgag	1860
gagggcatat	gtcagccatg	ccccatcaac	tgcacccact	catgtgtgga	cctggacgaa	1920
cgaggctgcc	cagcagagca	gagagccagc	ccagtgacat	tcatcattgc	aactgtggtg	1980
ggcgtcctgt	tgttcctgat	catagtggtg	gtcattggaa	tcctaatcaa	acgaaggcga	2040
cagaagatcc	ggaagtatac	catgcgtagg	ctgctgcagg	agaccgagct	ggtggagccg	2100
ctgacgccca	gtggagctgt	gcccaaccag	gctcagatgc	ggatcctaaa	ggagacagag	2160
ctaaggaagc	tgaaggtgct	tgggtcagga	gccttcggca	ctgtctacaa	gggcatctgg	2220
atcccagatg	gggagaacgt	gaaaatcccc	gtggccatca	aggtgttgag	ggaaaacaca	2280
tctcctaaag	ctaacaaaga	aatcctagat	gaagcgtacg	tcatggctgg	tgtgggttct	2340
ccatatgtgt	cccgcctcct	gggcatctgc	ctgacatcca	cagtgcagct	ggtgacacag	2400
cttatgccct	atggctgcct	tctggaccat	gtccgagaac	accgaggtcg	cttaggctcc	2460
caggacctgc	tcaactggtg	tgttcagatt	gccaagggga	tgagctacct	ggaggaagtt	2520
cggcttgttc	acagggacct	agctgcccga	aacgtgctag	tcaagagtcc	caaccacgtc	2580
aagattaccg	acttcgggct	ggcacggctg	ctggacattg	atgagactga	ataccatgca	2640
gatgggggca	aggtgcccat	caagtggatg	gcattggaat	ctattctcag	acgccggttc	2700
actcatcaga	gtgatgtgtg	gagctatggt	gtgactgtgt	gggagctgat	gacctttggg	2760
gccaaacctt	acgatgggat	cccagctcgg	gagatccctg	atttgctgga	gaagggagaa	2820
cgcctacctc	agcctccaat	ctgcaccatc	gacgtctaca	tgatcatggt	caaatgttgg	2880
atgattgact	ccgaatgtcg	cccgagattc	cgggagttgg	tatcagaatt	ctcccgtatg	2940
gcaagggacc	cccagcgctt	tgtggtcatc	cagaacgagg	acttaggccc	ctccagcccc	3000
atggacagca	ccttctaccg	ttcactgctg	gaggatgatg	acatggggga	gctggtcgat	3060
gctgaagagt	acctggtacc	ccagcaggga	ttcttctccc	cagaccctgc	cctaggtact	3120
gggagcacag	cccaccgcag	acaccgcagc	tcgtcggcca	ggagtggcgg	tggtgagctg	3180
acactgggcc	tggagccctc	ggaagaagag	cccccagat	ctccactggc	tccctccgaa	3240
ggggctggct	ccgatgtgtt	tgatggtgac	ctggcagtgg	gggtaaccaa	aggactgcag	3300
agcctctctc	cacatgacct	cagccctcta	cagcggtaca	gtgaggatcc	cacattacct	3360

Fig. 19 (SEQ ID NO:11)

ctgccccccg	agactgatgg	ctacgttgct	cccctggcct	gcagccccca	gcccgagtat	3420
gtgaaccagc	cagaggttcg	gcctcagtct	cccttgaccc	cagagggtcc	tccgcctccc	3480
atccgacctg	ctggtgctac	tctagaaaga	cccaagactc	tctctcctgg	gaaaaatggg	3540
gttgtcaaag	acgtttttgc	ctttgggggt	gctgtggaga	accctgaata	cctagcaccc	3600
agagcaggca	ctgcctctca	gccccaccct	tctcctgcct	tcagcccagc	ctttgacaac	3660
ctctattact	gggaccagaa	ctcatcggag	cagggtcctc	caccaagtac	ctttgaaggg	3720
acccccactg	cagagaaccc	tgagtaccta	ggcctggatg	tgccagtatg	a	3771

Fig. 20 (SEQ ID NO:14)

Met 1	Glu 1	Leu A	Ala A	Ala 1 5	rp (Cys 1	Arg 1	rp (Gly 1	Phe	Leu	Leu	Ala	Leu I 15	Leu
	Pro	Gly	Ala 20	Ala	Gly	Thr	Gln	Val 25	Cys	Thr	Gly	Thr	Asp	Met	Lys
Leu	Arg	Leu 35		Ala	Ser	Pro	Glu 40		His	Leu	Asp	Met 45		Arg	His
Leu	_		Gly	Cys	Gln			Gln	Gly	Asn			Leu	Thr	Tyr
	50 Pro	Ala	Asn	Ala		55 Leu	Ser	Phe	Leu		60 . Asp	Ile	Gln	Glu	
65 Gln	Gly	Tyr	Met	Leu	70 Ile	Ala	His	Asn		75 Val	Lys	His	Val	Pro	80 Leu
Gln	Arg	Leu	Arg	85, Ile	Val	Arg	Gly	Thr	90 Gln	Leu	Phe	Glu	. Asp	95 Lys	Tyr
Ala	Leu	Ala	100 Val	Leu	Asp	Asn	Arg	105 Asp	Pro	Leu	. Asp	Asn	110 Val	Thr	Thr
Ala	Ala	115 Pro	Gly	Arg	Thr	Pro	120 Glu	Gly	Leu	Arg	Glu	125 Leu		Leu	Arg
Ser	130 Leu	Thr	Glu	Ile	Leu	135 Lys	Gly	Gly	Val	Leu	140 Ile		, Gly	Asn	Pro
145					150					155				Arg	160
		_	_	165	_				170					175	
			180					185					190		
_		195					200					205	5	Gly	
	210					215					220			Ser	
225					230					235	;			Glu	240
Cys	Ala	Ala	Gly	Cys 245	Thr	Gly	Pro	Lys	His 250		Asp	Cys	Leu	Ala 255	Cys
Leu	His	Phe	Asn 260	His	Ser	Gly	Ile	Cys 265		Leu	. His	Cys	Pro 270	Ala	Leu
Ile	Thr	Tyr 275	Asn	Thr	Asp	Thr	Phe 280	Glu	Ser	Met	. Leu	Asr 285		Glu	Gly
Arg	Tyr 290		Phe	Gly	Ala	Ser 295	Cys	Val	Thr	Thr	Cys		Tyr	Asn	Tyr
Leu 305	Ser		Glu	Val	Gly 310	Ser	Cys	Thr	Leu	Val		Pro	Pro	Asn	Asn 320
		Val	Thr	Ala 325	Glu	Asp	Gly	Thr	Gln 330	Arg		Glu	ı Lys	Cys 335	Ser
Lys	Pro	Cys	Ala 340		Val	Cys	Tyr	Gly 345	Leu		Met	Glu	His 350	Leu	Arg
Gly	Ala	Arg		Ile	Thr	Ser	Asp 360			Glr	ı Glu	Phe 365	e Ala	Gly	Cys
Lys		Ile	Phe	Gly	Ser		Ala	Phe	Leu	Pro		ı Ser		Asp	Gly
			Ser	Gly		375 Ala		Leu	Lys				. Leu	Gln	
385 Phe		Thr	Leu		390 Glu	Ile	Thr	Gly				: Ile	e Ser	Ala	
Pro	Glu	Ser	Phe	405 Gln	Asp	Leu	Ser	Val	410 Phe		ı Asr	ı Let	ı Arg	415 Val	

Fig. 20 (SEQ ID NO:14)

			420					425					430		
Arg	Gly	Arg 435	Ile	Leu	His	Asp	Gly 440	Ala	Tyr	Ser	Leu	Thr 445	Leu	Gln	Gly
Leu	Gly 450	Ile	His	Ser	Leu	Gly 455	Leu	Arg	Ser	Leu	Arg 460	Glu	Leu	Gly	Ser
465	Leu				470	_				475					480
	Pro	_	_	485					490					495	
	Gly		500					505					510		
	Ser	515					520					525			
	Val 530					535					540				
545	Arg				550					555					560
	Leu			565					570					575	
-	Tyr	_	580			_		585					590		
	Ser	595					600					605			
	Ser 610					615					620				
625	Pro Gly				630					635					640
_	Thr			645					650					655	
	Ile		660					665					670		
	Arg	675					680					685			
	690 Ala					695					700				
705					710					715					720
	Gly			725					730					735	
	Lys		740					745					750		
	Asp	755					760					765			
	770 Leu					775					780				
785					790					795					800
	Leu			805					810					815	
	Met		820					825					830		
_	Arg	835					840					845			
	850 Gly			•		855					860				Ala
865					870					875					880

Fig. 20 (SEQ ID NO:14)

Asp	Gly	Gly	Lys		Pro	Ile	Lys	Trp		Ala	Leu	Glu	Ser		Leu
7	7 ~~	7 ~~	Dho	885	773	01 -	C	7	890	Ф		m	01	895	m1.
Arg	Arg	Arg	900	1111	птъ	GIII	Ser	905	vai	пр	Ser	TYL	910	vai	Thr
Val	Trp	Glu		Met	Thr	Phe	Gly		Lys	Pro	Tyr	Asp		Ile	Pro
•		915					920					925			
Ala		Glu	Ile	Pro	Asp		Leu	Glu	Lys	Gly		Arg	Leu	Pro	Gln
_	930	~ 1	_	1		935		_			940		_	_	_
945	Pro	TTE	Cys	Thr	11e 950	Asp	Val	Tyr	Met	11e 955	Met	Val	Lys	Cys	Trp 960
	Tle	Asp	Ser	Glu		Ara	Pro	Δra	Dhe		Glu	Len	Val	Ser	
1.00		p	001	965	- 10	9	110	*** 9	970	****9	010	200	· · · ·	975	Olu
Phe	Ser	Arg	Met	Ala	Arg	Asp	Pro	Gln	Arg	Phe	Val	Val	Ile	Gln	Asn
			980					985					990		
Glu	Asp		Gly	Pro	Ser		Pro		Asp	Ser	Thr			Arg	Ser
Len	T. 211	995	λen	λen	λεπ		1000 Gly		LOU	17 n 1	7.50	1005		C1	Тъ със
ьеu	1010		Asp	Asp	ASP	1015		GIU	пец	vai	1020		Giu	GIU	IYL
Leu	Val	Pro	Gln	Gln	Gly		Phe	Ser	Pro	Asp	Pro	Ala	Leu	Gly	Thr
1029	5				1030)				1035	5				1040
Gly	Ser	Thr	Ala			Arg	His	Arg			Ser	Ala	Arg		
_	_		_	1045		_		_	1050		_		_	1055	
Gly	Gly	Glu	Leu 1060		Leu	Gly	Leu			Ser	Glu	Glu	Glu 1070		Pro
			TOPL	,				1065	n .				1 () / (
		D			D	<u> </u>	~ 1			~ 1		7			_
Arg	Ser		Leu		Pro	Ser	Glu	Gly		Gly	Ser		Val		Asp
_		1075	Leu 5	Ala			1080	Gly	Ala			1085	Val	Phe	
_		1075 Leu	Leu 5	Ala			1080 Thr	Gly	Ala			1085 Ser	Val	Phe	
Gly	Asp 1090	1075 Leu)	Leu S Ala	Ala Val	Gly	Val 1099	1080 Thr	Gly Lys	Ala Gly	Leu	Gln 1100	1085 Ser	Val Leu	Phe Ser	Pro
Gly His	Asp 1090 Asp	1075 Leu) Leu	Leu S Ala Ser	Ala Val Pro	Gly Leu 1110	Val 1099 Gln	1080 Thr Arg	Gly) Lys Tyr	Ala Gly Ser	Leu Glu 1115	Gln 1100 Asp	1085 Ser) Pro	Val Leu Thr	Phe Ser Leu	Pro Pro 1120
Gly His	Asp 1090 Asp	1075 Leu) Leu	Leu S Ala Ser	Ala Val Pro Thr	Gly Leu 1110 Asp	Val 1099 Gln	1080 Thr	Gly) Lys Tyr	Ala Gly Ser Ala	Leu Glu 1115 Pro	Gln 1100 Asp	1085 Ser) Pro	Val Leu Thr	Phe Ser Leu Ser	Pro Pro 1120 Pro
Gly His 1109 Leu	Asp 1090 Asp Pro	1075 Leu) Leu Pro	Leu Ala Ser Glu	Ala Val Pro Thr	Gly Leu 1110 Asp	Val 1099 Gln Oly	1080 Thr Arg	Gly Lys Tyr Val	Ala Gly Ser Ala 1130	Leu Glu 1115 Pro	Gln 1100 Asp Leu	1085 Ser) Pro Ala	Val Leu Thr Cys	Phe Ser Leu Ser	Pro Pro 1120 Pro
Gly His 1109 Leu	Asp 1090 Asp Pro	1075 Leu) Leu Pro	Leu S Ala Ser Glu	Ala Val Pro Thr 1125 Val	Gly Leu 1110 Asp	Val 1099 Gln Oly	1080 Thr Arg	Gly Lys Tyr Val	Ala Gly Ser Ala 1130 Val	Leu Glu 1115 Pro	Gln 1100 Asp Leu	1085 Ser) Pro Ala	Val Leu Thr Cys	Phe Ser Leu Ser 1135 Pro	Pro Pro 1120 Pro
Gly His 1105 Leu Gln	Asp 1090 Asp Pro	Leu Leu Pro	Leu S Ala Ser Glu Tyr 1140	Val Pro Thr 1125 Val	Gly Leu 1110 Asp S	Val 1099 Gln Oly Gly	1080 Thr Arg Tyr	Gly Lys Tyr Val Glu 1145	Ala Gly Ser Ala 1130 Val	Leu Glu 1115 Pro Arg	Gln 1100 Asp Leu Pro	1085 Ser Pro Ala	Val Leu Thr Cys Ser	Phe Ser Leu Ser 1135 Pro	Pro Pro 1120 Pro Leu
Gly His 1105 Leu Gln	Asp 1090 Asp Pro	Leu Pro Glu Glu	Leu S Ala Ser Glu Tyr 1140 Gly	Val Pro Thr 1125 Val	Gly Leu 1110 Asp S	Val 1099 Gln Oly Gly	Thr Arg Tyr Pro	Gly Lys Tyr Val Glu 1145	Ala Gly Ser Ala 1130 Val	Leu Glu 1115 Pro Arg	Gln 1100 Asp Leu Pro	1085 Ser Pro Ala Gln	Val Leu Thr Cys Ser 1150	Phe Ser Leu Ser 1135 Pro	Pro Pro 1120 Pro Leu
Gly His 1105 Leu Gln Thr	Asp 1090 Asp Pro Pro	Leu Pro Glu Glu	Leu Ala Ser Glu Tyr 1140 Gly	Ala Val Pro Thr 1125 Val Pro	Leu 1110 Asp Asn Pro	Val 1099 Gln Gly Gln Pro	Thr Arg Tyr Pro	Gly Lys Tyr Val Glu 1149 Ile	Ala Gly Ser Ala 1130 Val Arg	Leu Glu 1115 Pro) Arg	Gln 1100 Asp Leu Pro	Pro Ala Gln Gly 1165	Val Leu Thr Cys Ser 1150 Ala	Phe Ser Leu Ser 1135 Pro	Pro Pro 1120 Pro Leu Leu
Gly His 1105 Leu Gln Thr	Asp 1090 Asp Pro Pro	Leu Pro Glu Glu 1155	Leu Ala Ser Glu Tyr 1140 Gly	Ala Val Pro Thr 1125 Val Pro	Leu 1110 Asp Asn Pro	Val 1099 Gln Gly Gln Pro	1080 Thr Arg Tyr Pro Pro 1160 Pro	Gly Lys Tyr Val Glu 1149 Ile	Ala Gly Ser Ala 1130 Val Arg	Leu Glu 1115 Pro) Arg	Gln 1100 Asp Leu Pro	1085 Ser Pro Ala Gln Gly 1165 Val	Val Leu Thr Cys Ser 1150 Ala	Phe Ser Leu Ser 1135 Pro	Pro Pro 1120 Pro Leu Leu
Gly His 1109 Leu Gln Thr	Asp 1090 Asp Pro Pro Pro Arg 1170	Leu Pro Glu 1155 Pro	Leu Ala Ser Glu Tyr 1140 Gly Lys	Ala Val Pro Thr 1125 Val Pro Thr	Leu 1110 Asp Asn Pro	Val 1099 Gln Gly Gln Pro Ser 1179	1080 Thr Arg Tyr Pro Pro 1160 Pro	Gly Lys Tyr Val Glu 1145 Ile Gly	Ala Gly Ser Ala 1130 Val Arg Lys	Leu Glu 1115 Pro Arg Pro	Gln 1100 Asp Leu Pro Ala Gly 1180	1085 Ser Pro Ala Gln Gly 1165 Val	Val Leu Thr Cys Ser 1150 Ala Val	Phe Ser Leu Ser 1135 Pro Thr	Pro Pro 1120 Pro Leu Leu Asp
Gly His 1109 Leu Gln Thr Glu Val 1189	Asp 1090 Asp Pro Pro Pro Arg 1170 Phe	Leu Pro Glu 1155 Pro Ala	Leu Ala Ser Glu Tyr 1140 Gly Lys Phe	Ala Val Pro Thr 1125 Val Pro Thr Gly	Leu 1110 Asp Asn Pro Leu Gly 1190	Val 1099 Gln Gly Gln Pro Ser 1179 Ala	Tyr Pro Pro 1160 Pro Val	Gly Lys Tyr Val Glu 1149 Ile Gly Glu	Ala Gly Ser Ala 1130 Val Arg Lys	Leu Glu 1115 Pro Arg Pro Asn Pro 1195	Gln 1100 Asp Leu Pro Ala Gly 1180 Glu	1085 Ser Pro Ala Gln Gly 1165 Val	Val Leu Thr Cys Ser 1150 Ala Val Leu	Phe Ser Leu Ser 1135 Pro Thr Lys	Pro Pro 1120 Pro Leu Leu Asp Pro 1200
Gly His 1109 Leu Gln Thr Glu Val 1189	Asp 1090 Asp Pro Pro Pro Arg 1170 Phe	Leu Pro Glu 1155 Pro Ala	Leu Ala Ser Glu Tyr 1140 Gly Lys Phe	Ala Val Pro Thr 1125 Val Pro Thr Gly Ala	Leu 1110 Asp Asn Pro Leu Gly 1190 Ser	Val 1099 Gln Gly Gln Pro Ser 1179 Ala	Thr Arg Tyr Pro Pro 1160 Pro	Gly Lys Tyr Val Glu 1149 Ile Gly Glu	Ala Gly Ser Ala 1130 Val Arg Lys Asn Pro	Leu Glu 1115 Pro Arg Pro Asn Pro 1195 Ser	Gln 1100 Asp Leu Pro Ala Gly 1180 Glu	1085 Ser Pro Ala Gln Gly 1165 Val	Val Leu Thr Cys Ser 1150 Ala Val Leu	Phe Ser Leu Ser 1135 Pro Thr Lys Ala Ser	Pro Pro 1120 Pro Leu Leu Asp Pro 1200 Pro
Gly His 1109 Leu Gln Thr Glu Val 1189 Arg	Asp 1090 Asp Pro Pro Pro Arg 1170 Phe	Leu Pro Glu Glu 1155 Pro Ala Gly	Leu Ala Ser Glu Tyr 1140 Gly Lys Phe Thr	Ala Val Pro Thr 1125 Val Pro Thr Gly Ala 1205	Leu 1110 Asp Asn Pro Leu Gly 1190 Ser	Val 1099 Gln Gly Gln Pro Ser 1179 Ala	Tyr Pro Pro 1160 Pro Val	Gly Lys Tyr Val Glu 1149 Ile Gly Glu His	Ala Gly Ser Ala 1130 Val Arg Lys Asn Pro 1210	Leu Glu 1115 Pro Arg Pro Asn Pro 1195 Ser	Gln 1100 Asp Leu Pro Ala Gly 1180 Glu Pro	1085 Ser Pro Ala Gln Gly 1165 Val Tyr	Val Leu Thr Cys Ser 1150 Ala Val Leu Phe	Phe Ser Leu Ser 1135 Pro Thr Lys Ala Ser 1215	Pro Pro 1120 Pro Leu Leu Asp Pro 1200 Pro
Gly His 1109 Leu Gln Thr Glu Val 1189 Arg	Asp 1090 Asp Pro Pro Pro Arg 1170 Phe	Leu Pro Glu Glu 1155 Pro Ala Gly	Leu Ala Ser Glu Tyr 1140 Gly Lys Phe Thr	Ala Val Pro Thr 1125 Val Pro Thr Gly Ala 1205 Leu	Leu 1110 Asp Asn Pro Leu Gly 1190 Ser	Val 1099 Gln Gly Gln Pro Ser 1179 Ala	Tyr Pro Pro 1160 Pro Val	Cly Lys Tyr Val Glu 1149 Ile Gly Glu His	Ala Gly Ser Ala 1130 Val Arg Lys Asn Pro 1210 Gln	Leu Glu 1115 Pro Arg Pro Asn Pro 1195 Ser	Gln 1100 Asp Leu Pro Ala Gly 1180 Glu Pro	1085 Ser Pro Ala Gln Gly 1165 Val Tyr	Val Leu Thr Cys Ser 1150 Ala Val Leu Phe Glu	Phe Ser Leu Ser 1133 Pro Thr Lys Ala Ser 1215 Gln	Pro Pro 1120 Pro Leu Leu Asp Pro 1200 Pro
Gly His 1109 Leu Gln Thr Glu Val 1189 Arg	Asp 1090 Asp Pro Pro Pro Arg 1170 Phe Ala	Leu Pro Glu Glu 1155 Pro Ala Gly Asp	Leu Ala Ser Glu Tyr 1140 Gly Lys Phe Thr Asn 1220	Ala Val Pro Thr 1125 Val Pro Thr Gly Ala 1205 Leu	Leu 1110 Asp Asn Pro Leu Gly 1190 Ser Tyr	Val 1099 Gln Gly Gln Pro Ser 1179 Ala Gln Tyr	1080 Thr Arg Tyr Pro Pro 1160 Pro Val Pro Trp	Gly Lys Tyr Val Glu 1149 Ile Gly Glu His Asp	Ala Gly Ser Ala 1130 Val Arg Lys Asn Pro 1210 Gln	Leu Glu 1115 Pro Arg Pro Asn Pro 1195 Ser	Gln 1100 Asp Leu Pro Ala Gly 1180 Glu Pro Ser	1085 Ser Pro Ala Gln Gly 1165 Val Tyr Ala Ser	Val Leu Thr Cys Ser 1150 Ala Val Leu Phe Glu 1230	Phe Ser Leu Ser 1135 Pro Thr Lys Ala Ser 1215 Gln	Pro Pro 1120 Pro Leu Leu Asp Pro 1200 Pro Gly
Gly His 1109 Leu Gln Thr Glu Val 1189 Arg	Asp 1090 Asp Pro Pro Pro Arg 1170 Phe Ala	Leu Pro Glu Glu 1155 Pro Ala Gly Asp	Leu Ala Ser Glu Tyr 1140 Gly Lys Phe Thr Asn 1220 Ser	Ala Val Pro Thr 1125 Val Pro Thr Gly Ala 1205 Leu	Leu 1110 Asp Asn Pro Leu Gly 1190 Ser Tyr	Val 1099 Gln Gly Gln Pro Ser 1179 Ala Gln Tyr	Tyr Pro Pro 1160 Pro Val	Gly Lys Tyr Val Glu 1145 Ile Gly Glu His Asp 1225 Thr	Ala Gly Ser Ala 1130 Val Arg Lys Asn Pro 1210 Gln	Leu Glu 1115 Pro Arg Pro Asn Pro 1195 Ser	Gln 1100 Asp Leu Pro Ala Gly 1180 Glu Pro Ser	1085 Ser Pro Ala Gln Gly 1165 Val Tyr Ala Ser	Val Leu Thr Cys Ser 1150 Ala Val Leu Phe Glu 1230 Asn	Phe Ser Leu Ser 1135 Pro Thr Lys Ala Ser 1215 Gln	Pro Pro 1120 Pro Leu Leu Asp Pro 1200 Pro Gly
Gly His 1109 Leu Gln Thr Glu Val 1189 Arg Ala Pro	Asp 1090 Asp Pro Pro Pro Arg 1170 Phe Ala Phe	Leu Pro Glu Glu 1155 Pro Ala Gly Asp	Leu Ala Ser Glu Tyr 1140 Gly Lys Phe Thr Asn 1220 Ser	Ala Val Pro Thr 1125 Val Pro Thr Gly Ala 1205 Leu Thr	Leu 1110 Asp Asn Pro Leu Gly 1190 Ser Tyr Phe	Val 1099 Gln Gly Gln Pro Ser 1179 Ala Gln Tyr	1080 Thr Arg Arg Tyr Pro 1160 Pro 5 Val Pro Trp Gly 1240	Gly Lys Tyr Val Glu 1145 Ile Gly Glu His Asp 1225 Thr	Ala Gly Ser Ala 1130 Val Arg Lys Asn Pro 1210 Gln	Leu Glu 1115 Pro Arg Pro Asn Pro 1195 Ser	Gln 1100 Asp Leu Pro Ala Gly 1180 Glu Pro Ser	1085 Ser Pro Ala Gln Gly 1165 Val Tyr Ala Ser Glu	Val Leu Thr Cys Ser 1150 Ala Val Leu Phe Glu 1230 Asn	Phe Ser Leu Ser 1135 Pro Thr Lys Ala Ser 1215 Gln	Pro Pro 1120 Pro Leu Leu Asp Pro 1200 Pro Gly